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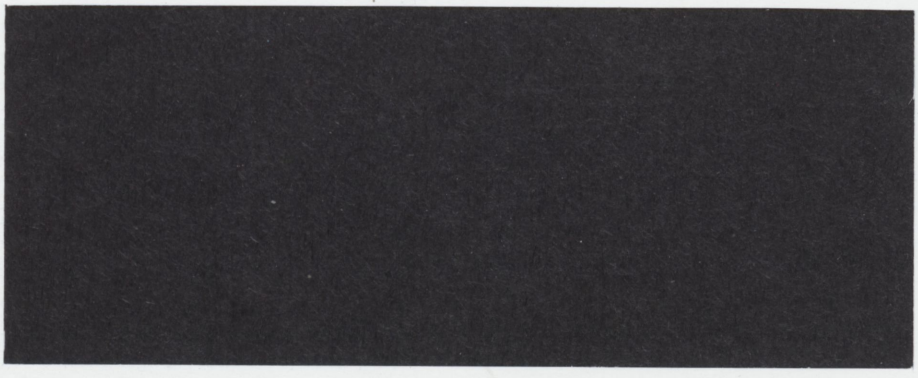

CANADA-PECC AGRICULTURAL TRADE: AN OVERVIEW

(Working Paper 1/93)

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CANADA-PECC[1] AGRICULTURAL TRADE: AN OVERVIEW

Introduction

Canada as a middle economic power is highly dependent on trade for its economic well-being. Exports of goods and services represent 25% of gross domestic product in comparison to about 10% for the United States and Japan. With respect to agricultural trade, the value of Canada's exports ($11.1 billion in 1991) is approximately one-half of the value of farm cash receipts.

As shown in Table 1, Canada's agricultural trade continues to be dominated by exports of grains and oilseeds and their products ($6.2 billion), but trade in live animals and red meats has grown rapidly in recent years and in 1991 represented 16% of total exports, up from less than 10% during the late 1970s. Canada's agri-food imports are dominated by fruits, nuts, winter vegetables and plantation crops. These commodities account for nearly one-half of Canada's total agri-food imports. It is also apparent from Table 1 that in some cases intra-industry trade is very important, particularly in the red meat category where Canada exports large volumes of pork while importing large volumes of low and very high quality beef. Consequently, even though exports of red meats total $909 million the net trade surplus in this category is only slightly more than $100 million. Canada's trade surplus in agri-food commodities has ranged between $2-4 billion in recent years, providing an important component of Canada's trade surplus in all goods and services which averaged $3.3 billion over the past five years.

Recently, Canada's attention, as far as trade matters are concerned, has been focused primarily on North America as well as on the GATT. Bilateral trade negotiations with the United States resulted in the Canada-United States Trade Agreement. More recently, trilateral negotiations between Canada, the United States and Mexico have resulted in an agreement (yet to be ratified) which will lead to the world's largest free trade area with a combined gross national product of nearly $7 trillion. However, solutions to the problems facing international agricultural trade will ultimately have to be found through multilateral negotiations. The list of issues is well known to anyone who has followed the Uruguay Round of GATT negotiations: a) competitive export subsidization, b) trade distorting domestic subsidies, c) market access, d) sanitary and phytosanitary regulations, and e) special and differential treatment for developing nations. A successful conclusion to the Uruguay Round would result in bringing agricultural trade more fully under multilateral rules and disciplines.

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[1] The Pacific Economic Cooperation Council (PECC) is an informal international body made up of twenty Pacific Rim economies, including three Latin American ones and the Russian Federation (see Appendix I).

Table 1. Canada's agri-food trade by commodity group, 1991

Commodity Group	Exports	Imports	Balance of Trade
	----------	(bil. $)	----------
Grains	4.415	.117	+4.298
Grain Products	.432	.434	-.002
Animal Feeds	.319	.288	+.031
Oilseeds	.731	.162	+.569
Oilseed Products	.271	.283	-.012
Seeds for Sowing	.093	.081	+.012
Tobacco and Products	.264	.031	+.233
Live Animals	.887	.102	+.785
Red Meats	.909	.791	+.118
Poultry and Eggs	.077	.205	-.128
Dairy Products	.166	.143	+.023
Other Animal Products	.411	.170	+.241
Fruits and Nuts	.153	1.942	-1.789
Vegetables	.453	1.061	-.608
Vegetable Fibres	.018	.099	-.081
Plantation Crops	.109	.616	-.507
Spices	.001	.040	-.029
Sugar and Products	.125	.353	-.228
Confectionary	.142	.250	-.108
Nursery Stocks	.231	.175	+.056
Beverages	.713	.675	+.038
Other Agri-food Products	.188	.443	-.255
Total	11.111	8.462	+2.649

Source: Statistics Canada, International Trade Division, Data Dissemination Section

Building on the achievements of these negotiations, we expect Canada's attention to shift more heavily towards the non-U.S. PECC nations. This attention would be well deserved because there is little doubt that these PECC nations will be the fastest growing markets for agricultural products in the 1990s. At the same time, there is considerable uncertainty regarding the growth potential for many of our traditional markets. For example, trade levels for grains and oilseeds in Eastern Europe and the former Soviet Union are unlikely to remain at historical levels during and after the reconfiguration of their economies. Furthermore, debt problems will limit the growth potential for markets in the "poorest of the poor" countries in Africa and elsewhere.

In the remainder of this paper we begin a preliminary assessment of Canada's trade patterns with the PECC nations. We are afraid that, at this point, our paper is long on description and short on analysis. Nonetheless, it represents a crucial first step to better understanding Canada's trade opportunities in the Pacific region. It is important to note that the PECC nations differ markedly in terms of culture, resource endowments, stage of economic development and macroeconomic performance. They range from the wealthy land rich nations of the United States, Canada, Australia and New Zealand, to the wealthy but land poor country of Japan, to the huge low income country of China. Hence, general conclusions drawn with respect to the region, or even similar blocks of countries, may need to be modified for individual nations.

We have three objectives in this paper:

- to examine the nature of Canadian agricultural trade with the PECC countries, with an emphasis on the decomposition of this trade into bulk commodities, intermediate goods, and high value products;

- to identify and examine some of the factors we consider to be important in influencing trade flows with the PECC nations over the next decade, including the impact that a Uruguay Round settlement (along the lines of the Dunkel Draft Final Act) might have; and

- to draw tentative conclusions from the preceding analysis with respect to the opportunities and constraints for expanded trade between Canada and the PECC countries.

Patterns of Canada's Agricultural Trade With PECC Countries[2]

An important objective of PECC is to promote trade among member countries by taking advantage of new trading opportunities. Since trade is a major engine of economic growth in Canada, this goal is certainly in our nation's interest. Furthermore, much of Canada's traditional trade has been with one or two partners, and thus, the country could profit from broadening its trading arrangements. With many of the fastest growing markets in the world located in east Asia, Canada would certainly like to benefit from the opportunities this growth provides.

The objective of this section is to review Canada's current trade in the Pacific region, and to explore opportunities for increasing this trade. We begin by providing an overview of Canada's trade with PECC nations, and by outlining the macroeconomic characteristics of these countries. We then examine the composition of our trade by disaggregating it into bulk, intermediate, and high valued products.

In examining trade with the PECC countries, the ASEAN nations **excluding Singapore** will be treated as a block. Thus, the ASEAN group includes Indonesia, Philippines, Malaysia, Thailand, and Brunei. Furthermore, countries with very low levels of trade are grouped together.

In 1988, Canada adopted the Harmonized Coding system for commodity classification. This was a significant change which effectively created a discontinuity in many trade data series. Thus, to avoid the data problems associated with this change, the years examined will be restricted to the period 1988-91.

Canada's agri-food trade (including alcoholic beverages) is an important component of the country's total trade in commodities. During the 1986-1990 period, Canada's agricultural trade averaged 7.6% of total exports, and 6% of total imports (Aube, 1992). The importance of PECC countries to Canada's agricultural trade is illustrated in Figure 1. PECC countries account for 63% of Canada's agricultural exports and 61% of agricultural imports. Figure 1 also illustrates the heavy concentration of trade with one PECC country, the USA (36% of total agricultural exports and 51% of total agricultural imports).

Total agriculture trade with PECC countries is summarized in Figure 2 for exports, and in Figure 3 for imports. On the export

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[2] Trade flows during the 1988-91 period are analyzed, and consequently, the countries belonging to PECC during this period are considered. These include the 14 countries listed in Table 2, as well as Brunei and the South Pacific Islands. More recently, Chile, Mexico, Peru, and Russia have joined the group.

Figure 1a: CANADIAN AGRICULTURAL EXPORTS (1988-1991 avg.)

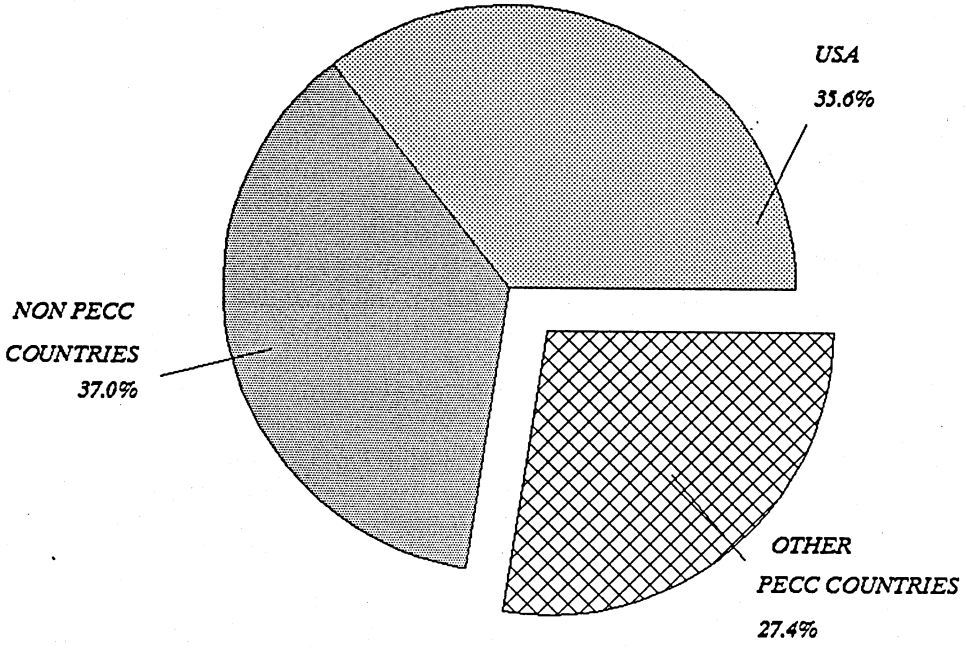


Figure 1b: CANADIAN AGRICULTURAL IMPORTS (1988-1991 avg.)

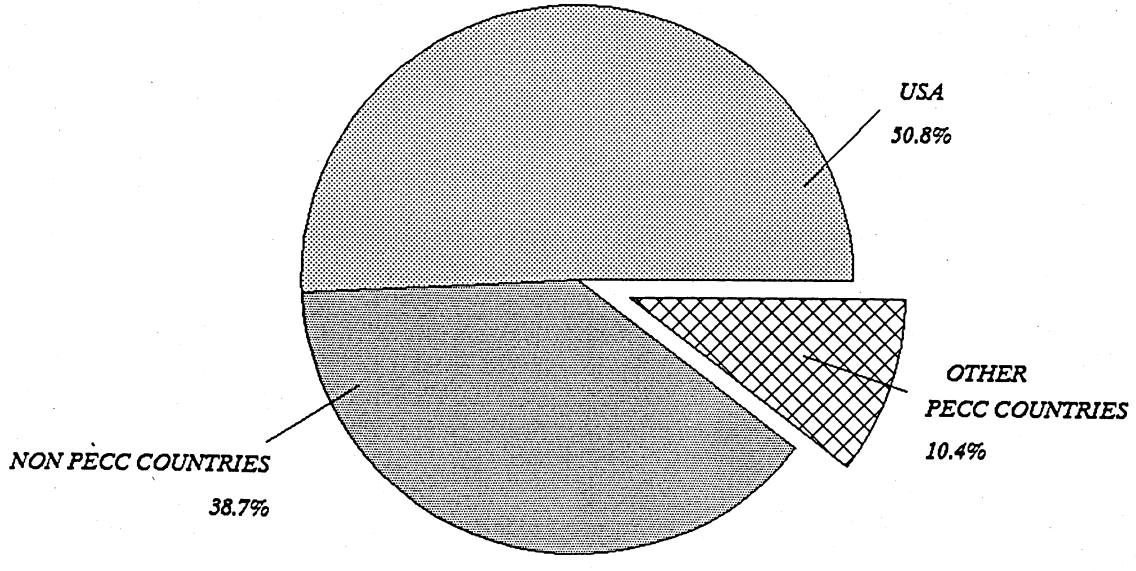


Figure 2a: CANADIAN AGRICULTURAL EXPORTS TO PECC COUNTRIES (1988-1991 avg.)

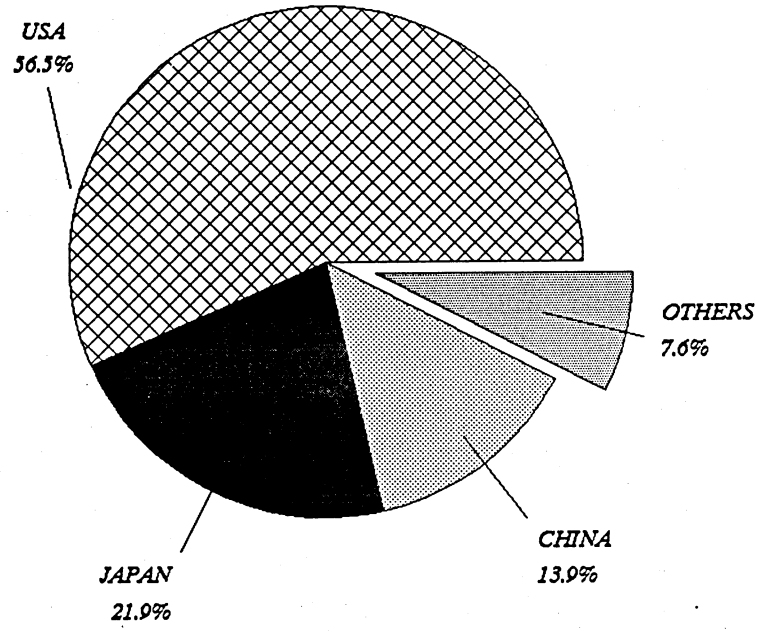
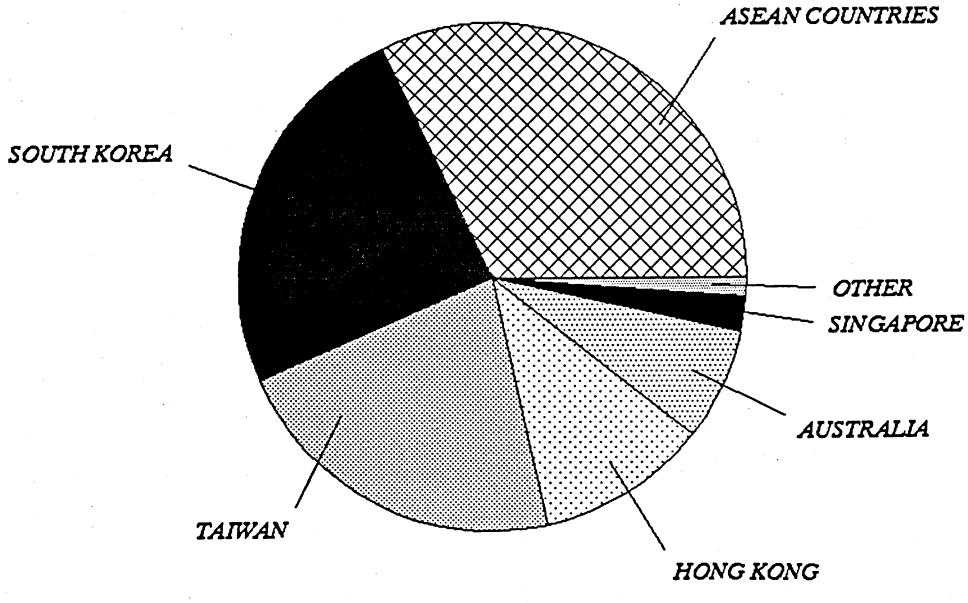


Figure 2b: CANADIAN AGRICULTURAL EXPORTS TO PECC Countries excl. USA, Japan and China (1988-91 avg)



OTHER incl NEW ZEALAND & PACIFIC ISLANDS

Figure 3a: CANADIAN AGRICULTURAL IMPORTS FROM PECC COUNTRIES (1988-1991 avg.)

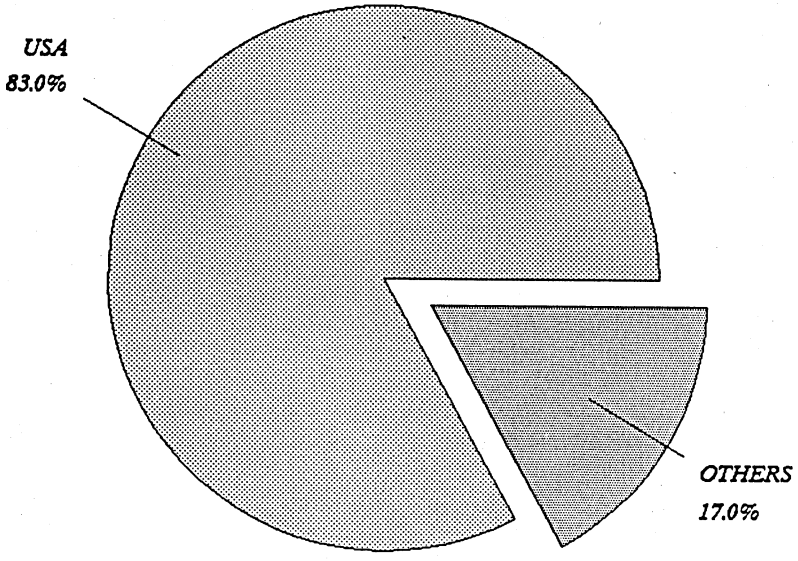
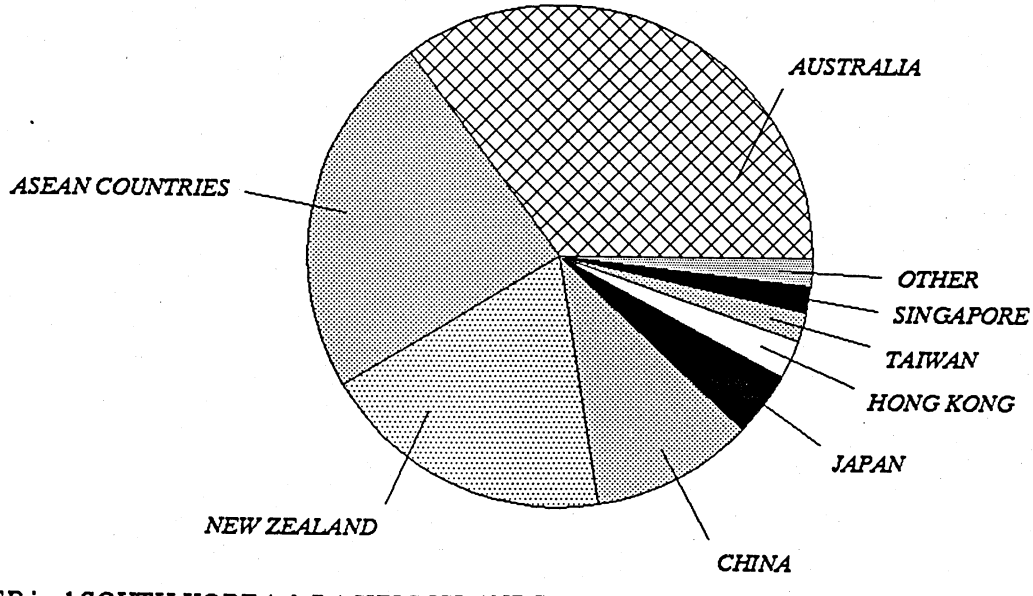


Figure 3b: CANADIAN AGRICULTURAL IMPORTS FROM PECC COUNTRIES excl. USA (1988-1991 avg.)



OTHER incl SOUTH KOREA & PACIFIC ISLANDS

side, the USA, Japan, and China account for 92% of Canada-PECC trade (Figure 2a), whereas 83% of PECC imports arrive from the USA alone. The breakdown of trade with the remaining trading partners is given in Figure 2b for exports, and Figure 3b for imports. These aggregate numbers alone suggest that there should be room for increasing trade with many of these countries.

Aggregate trade figures, however, tend to camouflage significant differences in the PECC nations that have important influences on trade. Some of these are highlighted in Tables 2 and 3. Of the 14 countries listed in Table 2, seven have incomes above $10,000/capita, three are between $1-$5,000/capita and three are below $1,000/capita. Average daily calorie supplies, while correlated with income, are very similar for countries with per capita incomes below $10,000. For these countries, calorie intake averages 2,600 calories/capita compared to 3,200 calories/capita for countries with per capita incomes above $10,000. Hence, there is some opportunity to increase food consumption, on a calorie basis. At the same time, food balance sheet data indicate a long-term shift from rice-based diets, to diets rich in meat, dairy products, and eggs (USDA, RS-92-2, 1992). This suggests that Canada may have an opportunity to increase feedgrain or red meat exports to these countries.

To the extent that food demand is driven by income increases, prospects for increased import demand within Asian PECC nations look very promising. Countries like China, Hong Kong, South Korea and Singapore have experienced historical real income growth rates well above 5 percent (Table 2). These growth rates are more than twice as large as real growth rates in Australia, New Zealand and the United States, countries which tend to have large amounts of crop land per capita, and are thus Canada's most natural competitors in international markets. World Bank forecasts indicate that the very high rates of economic growth, with real income exceeding 5 percent in many countries, are expected to continue for the remainder of the decade. Of particular concern to Canada is that its import share of many of these rapidly growing markets (e.g. Hong Kong, South Korea, Taiwan) has often been very low and/or falling over the 1986-90 period.

Table 3 shows that in aggregate Japan and the United States are by far the largest importers of agricultural goods, however, on a per capita basis, their imports are far smaller than those of Hong Kong or Singapore. The United States, China and Japan are Canada's largest export markets and these are the only markets where Canada's import share is above 2 percent; 26 percent for China, 12 percent for the United States and 4.6 percent for Japan. On a per capita basis, Canada's import share for certain major importers (e.g. Hong Kong and Singapore) is less than one percent.

To provide greater insight into the nature of this trade, commodities have been grouped into 3 categories: bulk or

Table 2. Population, GNP, and daily calorie supply data for PECC countries

Country	Population[1]		Real GNP/capita[2]		Daily calorie supply per capita[2]
	1990[3]	Growth rate	1989	Growth rate 1965-89	
	(mil.)	(%)	(US$)[4]	(%)	
Australia	16.8	1.6	14,360	1.7	3,322
Canada	26.5	0.9	19,030	4.0	3,447
China	1130.0	1.4	350	5.7	2,632
Hong Kong	6.0	1.2	10,350[5]	6.3	2,899
Indonesia	180.0	1.8	500	4.4	2,670
Japan	124.0	0.3	23,810	4.3	2,848
S. Korea	42.8	1.0	4,400	6.3	2,878
Malaysia	17.8	2.4	2,160	4.0	2,686
New Zealand	3.3	1.0	12,070	0.8	3,459
Philippines	66.1	2.3	710	1.6	2,255
Singapore	2.7	1.5	10,450	7.0	2,892
Taiwan	20.3	1.0	7,512[6]	n.a.[7]	n.a.
Thailand	56.3	1.6	1,220	4.2	2,287
U.S.A	249.0	1.0	20,910	1.6	3,666

[1] Source: USDA, Foreign Agriculture 1990-91 (August 1991)

[2] Source: The World Bank, World Development Report 1991, Tables 1 & 28; and for Taiwan only, USDA, ERS, RS-91-4 (August 1991)

[3] Population data for Australia & USA refer to 1989 levels

[4] 1980 US$

[5] GNP data for Hong Kong refer to GDP

[6] GNP data for Taiwan expressed in 1986 US$

[7] Real per capita GDP growth in 1989 estimated to be 6.5% based on a real GDP growth in 1989 of 7.6% and population growth of 1.0%.

Table 3. Agricultural trade between Canada and PECC countries in 1988 (total and per capita basis)

Country	Value of agr. imports from world[1]		Value of agr. imports from Canada		Value of agr. exports to Canada	
	Total[2]	per capita	Total[3]	per capita	Total[3]	per capita[4]
	(mil.$)	($)	(mil.$)	($)	(mil.$)	($)
Australia	1803	109	37.4	2.3	313.6	12.1
Canada	7347	284	-	-	-	-
China	6583	6	1686.5	1.6	82.9	3.2
Hong Kong	7063	1261	59.4	10.6	21.2	0.8
Indonesia	1623	9	98.4	0.5	72.8	2.8
Japan	32989	269	1519.0	12.4	39.0	1.5
S. Korea	6501	153	87.0	2.1	15.6	0.6
Malaysia	2198	132	21.5	1.3	87.2	3.4
N. Zealand	651	197	4.0	1.2	183.9	7.1
Philippines	1164	19	28.5	0.5	30.4	1.2
Singapore	3772	1451	11.7	4.5	8.0	0.3
Taiwan	5127	255	130.2	6.5	17.2	0.7
Thailand	1301	24	10.9	0.2	49.1	1.9
USA	27805	113	3399.9	13.8	3995.0	154.2

1 Value of total agricultural imports and country populations in 1988 were obtained from USDA, "World Agriculture Trends and Indicators 1970-89".

2 Values in US dollars are converted to Canadian dollars using an exchange rate of CDN$1.23 per US dollar (Bank of Canada, 1988 average).

3 Statistics Canada, International Trade Division, Data Dissemination Section

4 based on Canadian population

unprocessed goods; intermediate or semi-processed goods; and high-value products. (See Appendix II for a definition of these categories.) Based on this general classification, exports and imports for bulk goods are presented in Figures 4 and 5; for intermediate goods in Figures 6 and 7; and for high valued goods in Figures 8 and 9.

An examination of these results reveals two points: first, the distribution of trade levels across these categories varies considerably among countries; and second, the distribution varies between the import and export components of Canada's bilateral trade with a particular partner. For example, Canada ships a high proportion of bulk goods to Japan and China, but nearly all high-valued goods go to the United States and Japan. On the other hand, it tends to import bulk goods from the United States, Australia and the ASEAN countries while nearly all intermediate and high-valued goods come from the United States.

Since the trade data only covered a three-year period (1988-91), it is difficult to draw any solid inferences regarding trends. However, during this period, Canadian bulk exports did increase to South Korea and Singapore; exports of intermediate goods increased to the USA and New Zealand; and high-valued exports generally increased to the USA. However, high-valued exports decreased to Japan, the ASEAN countries (excluding Singapore), and to the Pacific Islands. On the import side, Canada imported more bulk products from China and Singapore, but fewer from the remaining ASEAN countries and New Zealand; imports of intermediate goods increased from Hong Kong, but decreased from the USA and Singapore; and high-valued imports increased from the USA and the remaining ASEAN block, but decreased from New Zealand.

To give a better idea of the types of products in each of these categories, as well as inferring where Canada's competitive advantage (and disadvantage) may lie vis-a-vis PECC partners, the "big ticket" items in each of these categories are identified in Tables 4, 5 and 6 for exports, and Tables 7, 8 and 9 for imports. Canada's major exports in the bulk category are wheat, canola, and barley; in the intermediate goods category, live bovine animals, raw hides of bovine animals, and peat moss; and in the high-valued category, swine meat, distilled spirits, malt beer, meat of bovine animals, and baked goods (including bread, pastry, cakes, and biscuits). Again, the tables indicate the important role the USA, Japan, and China play in Canada's export trade. However, we also have modest trade flows with the ASEAN countries, South Korea, and Taiwan.

To identify new trading opportunities, a better knowledge of the commodities imported by a potential customer is required. For example, Canada might look to increase its share of Hong Kong's or Singapore's total agricultural imports for reasons noted earlier. Hong Kong's leading agricultural imports are fruits, vegetables,

Figure 4a: CANADIAN AGRICULTURAL BULK EXPORTS TO PECC COUNTRIES (1988-1991 avg.)

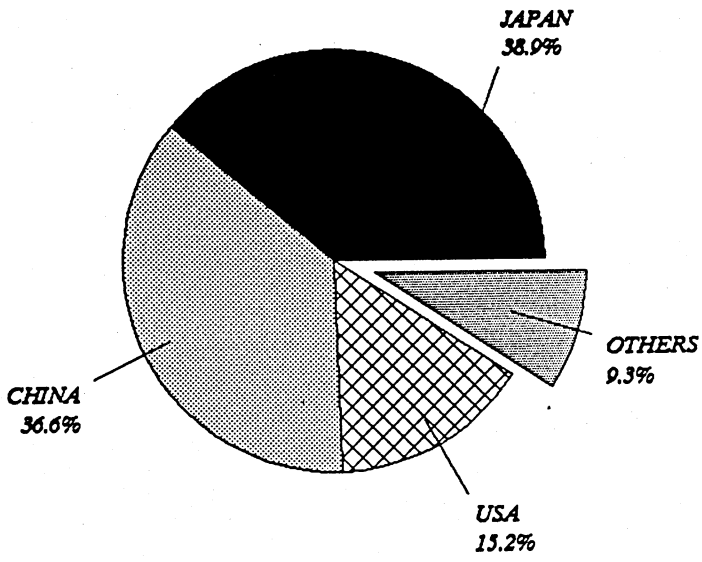


Figure 4b: BULK EXPORTS TO PECC COUNTRIES excl. Japan, USA and China (1988-91 avg)

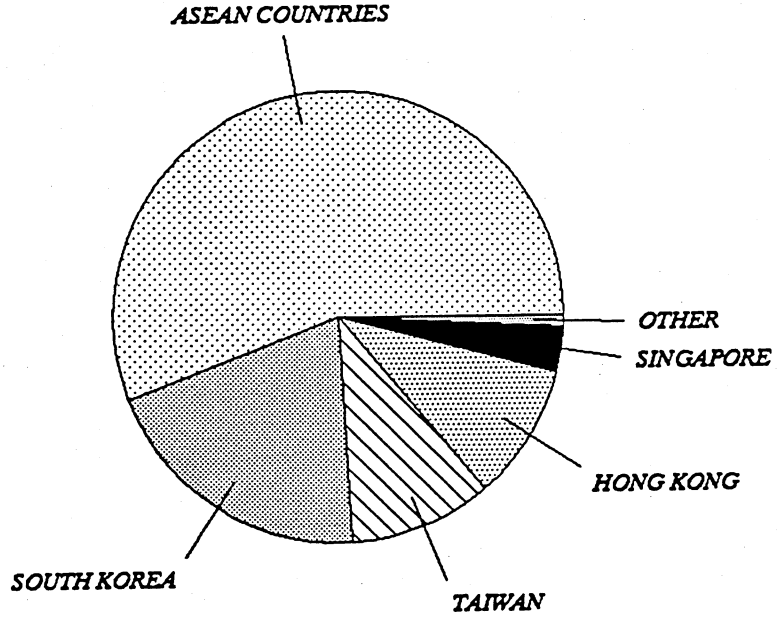


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Figure 5a: CANADIAN AGRICULTURAL BULK IMPORTS FROM PECC COUNTRIES (1988-1991 avg.)

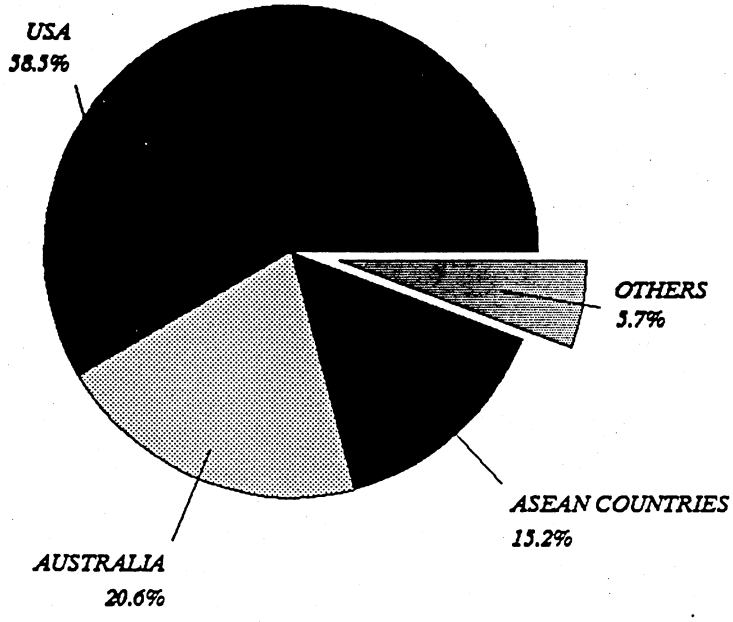

Figure 5b: BULK IMPORTS FROM PECC COUNTRIES excl. USA, Australia and Asean Countries

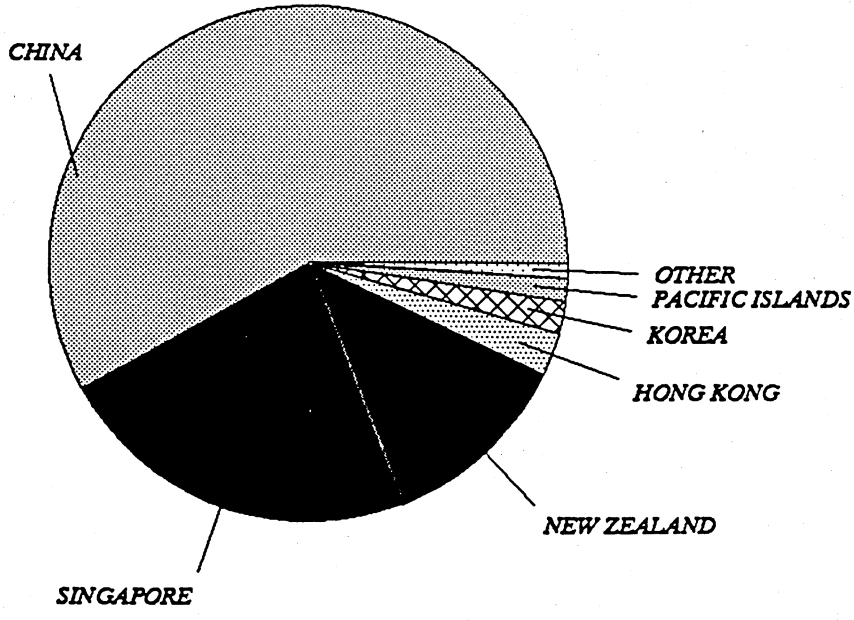

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Figure 6a: CANADIAN INTERMEDIATE AGRI-EXPORTS TO PECC COUNTRIES (1988-1991 avg.)

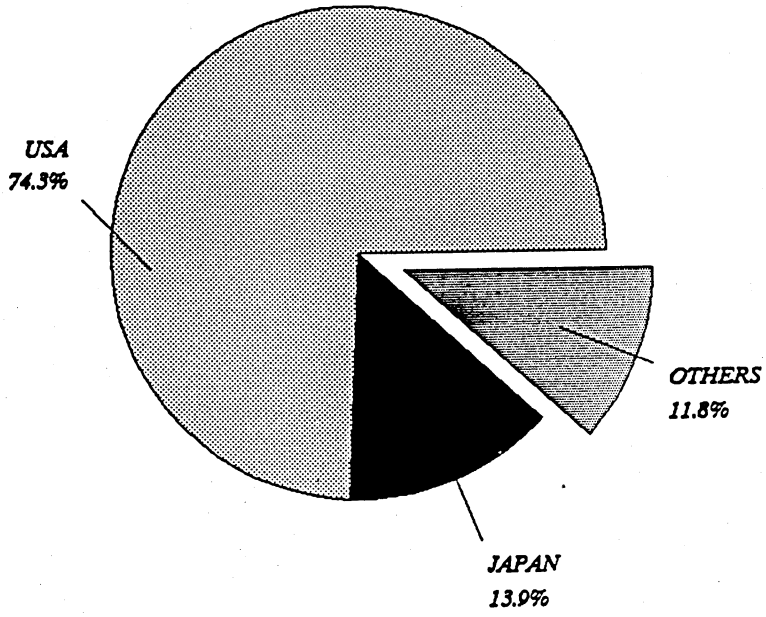
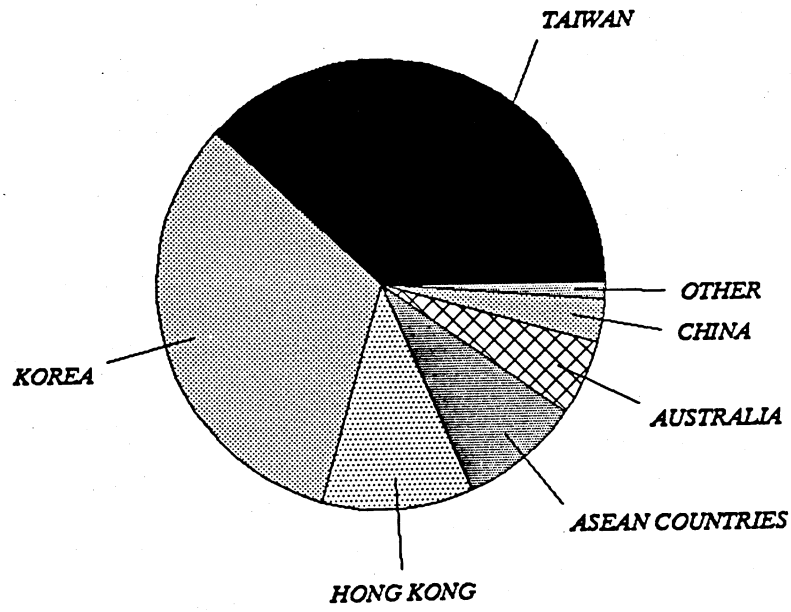


Figure 6b: INTERMEDIATE EXPORTS TO PECC COUNTRIES excl. USA and JAPAN (1988-1991 avg.)



OTHERS incl. NEW ZEALAND, SINGAPORE AND PACIFIC ISLANDS

Figure 7a: CANADIAN INTERMEDIATE AGRI-IMPORTS FROM PECC COUNTRIES (1988-1991 avg.)

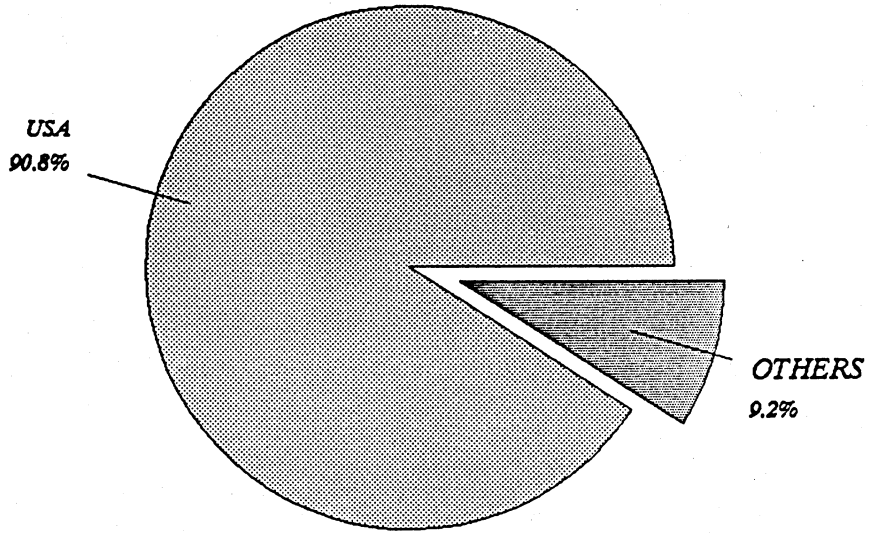


Figure 7b: INTERMEDIATE IMPORTS FROM PECC COUNTRIES excl. USA (1988-1991 avg.)

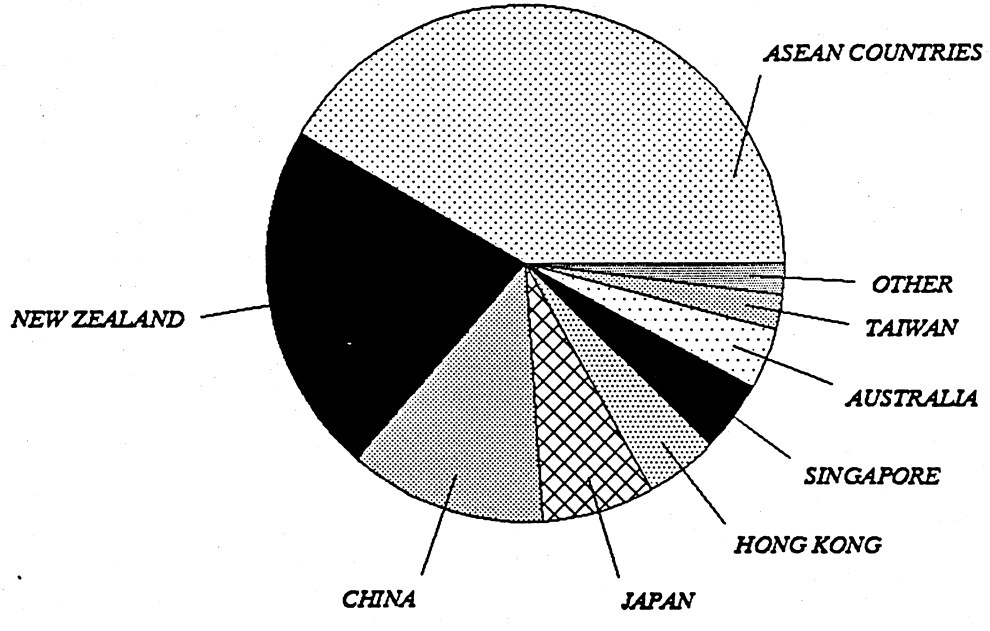


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Figure 8a: HIGH VALUE AGRICULTURAL EXPORTS TO PECC COUNTRIES (1988-1991 avg.)

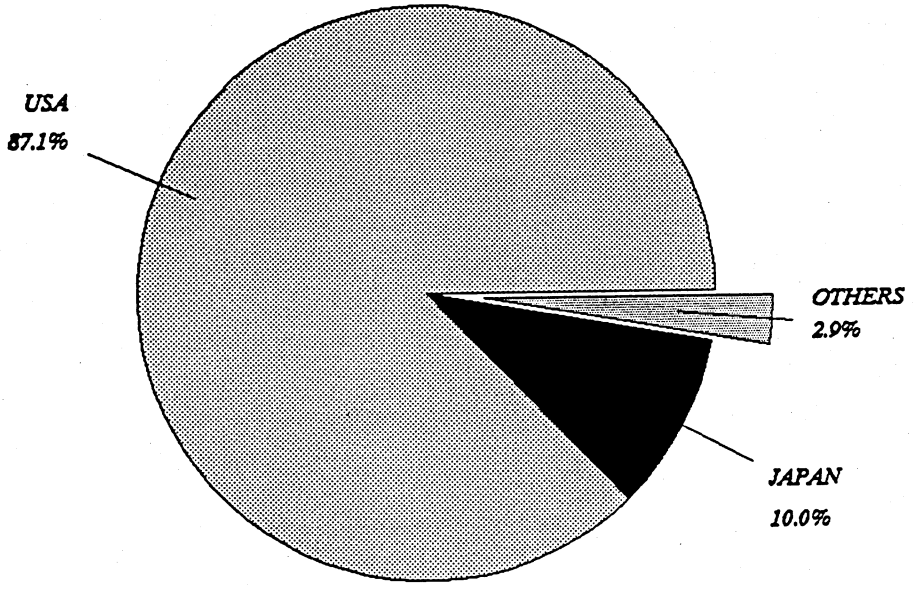
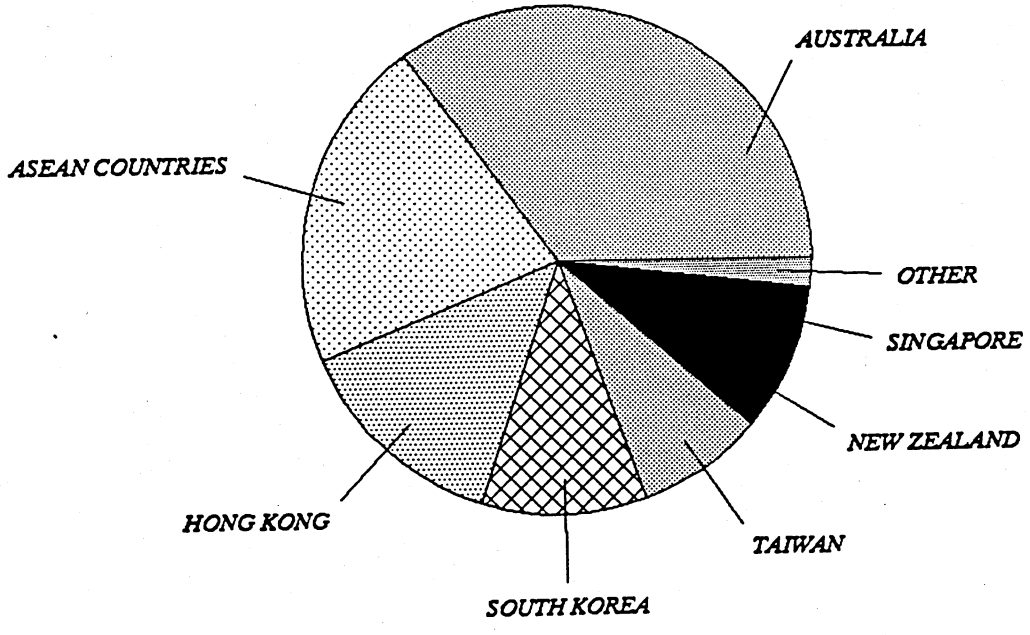


Figure 8b:HIGH VALUE EXPORTS TO PECC COUNTRIES excl. USA & JAPAN (1988-1991 avg.)



OTHER incl. CHINA & PACIFIC ISLANDS

Figure 9a: HIGH VALUE AGRICULTURAL IMPORTS FROM PECC COUNTRIES (1988-1991 avg.)

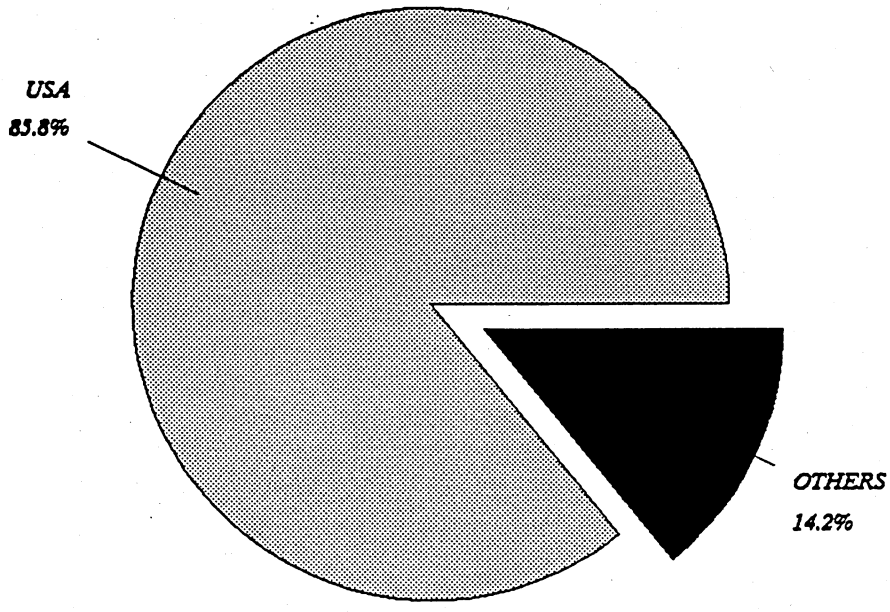
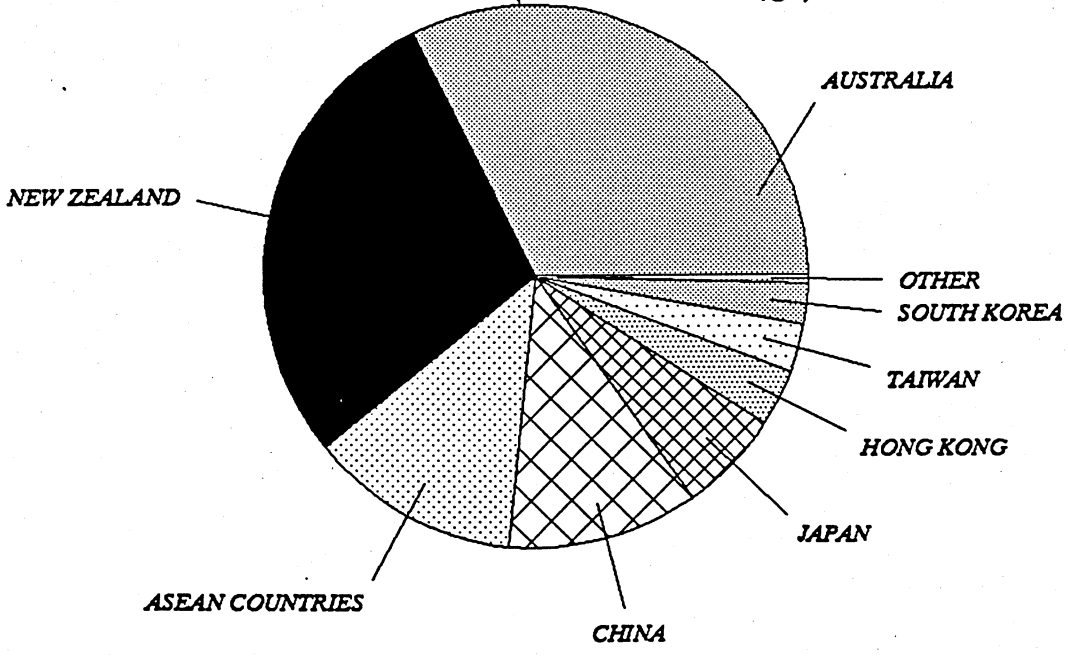


Figure 9b: HIGH VALUE IMPORTS FROM PECC COUNTRIES excl. USA (1988-1991 avg.)



OTHER incl PACIFIC ISLANDS & SINGAPORE

Table 4. Top 5 bulk agricultural products exported to PECC countries (1988-91 average)

	Commodity	Canada's exports to the world	Canada's exports to PECC	Canada's exports to PECC by country[1]		
				Country	Value	Share
		----- (mil.$) -----			(mil.$)	(%)
1	Wheat	3,544	1496	China	937	63
				Japan	284	19
				Asean	131	9
				USA	75	5
				South Korea	40	3
2	Canola	590	559	Japan	548	98
				USA	9	2
				South Korea	-	-
				Taiwan	-	-
				Asean	-	-
3	Barley	454	182	Japan	110	60
				USA	46	25
				China	20	11
				Hong Kong	5	3
				South Korea	2	1
4	Linseed	161	83	USA	51	61
				Japan	29	35
				South Korea	3	4
				Taiwan	-	-
				China	-	-
5	Oats	77	74	USA	69	93
				Japan	3	4
				South Korea	1	1
				Taiwan	-	-
				Asean	-	-

Source: Statistics Canada, International Trade Division, Data Dissemination Section

1. The countries are ordered based on their share of Canada's exports of the commodity to PECC members. If greater than 5 PECC countries import the commodity from Canada, only the top 5 are listed.

Table 5. Top 5 intermediate agricultural products exported to PECC countries (1988-91 average)

	Commodity	Canada's exports to the world	Canada's exports to PECC	Canada's exports to PECC by country[1]		
				Country	Value	Share
		----- (mil.$) -----			(mil.$)	(%)
1	Live bovine animals	568	537	USA	534	99
				Japan	1.5	-
				Australia	-	-
				S. Korea	-	-
				China	-	-
2	Raw hides of bovine animals	241	202	Taiwan	76	38
				S. Korea	45	22
				USA	45	22
				Japan	33	17
				Asean	2	1
3	Peat moss	117	115	USA	100	87
				Japan	14	12
				Australia	1	1
				Taiwan	-	-
				S. Korea	-	-
4	Live swine	113	112	USA	112	100
				Asean	-	-
				China	-	-
				Taiwan	-	-
				S. Korea	-	-
5	canola or mustard seed oil	137	106	USA	89	84
				Asean	8	8
				China	4	4
				Japan	3	3
				Hong Kong	1	-

Source: Statistics Canada, International Trade Division, Data Dissemination Section

[1] The countries are ordered based on their share of Canada's exports of the commodity to PECC members. If greater than 5 PECC countries import the commodity from Canada, only the top 5 are listed.

Table 6. Top 5 high value agricultural products exported to PECC countries (1988-91 average)

	Commodity	Canada's exports to the world	Canada's exports to PECC	Canada's exports to PECC by country[1]		
				Country	Value	Share
		----- (mil.$) -----			(mil.$)	(%)
1	Swine meat (fresh, chilled, and frozen)	550	529	USA	395	75
				Japan	130	25
				Australia	2	-
				Taiwan	1	-
				Hong Kong	-	-
2	Distilled spirits	385	360	USA	337	94
				Japan	22	6
				Australia	-	-
				Taiwan	-	-
				Hong Kong	-	-
3	Beer made from malt	190	190	USA	190	100
4	Bovine meat (fresh and chilled)	171	170	USA	167	98
				Japan	3	2
				Taiwan	-	-
				S. Korea	-	-
				Hong Kong	-	-
5	Bread, pastry, cakes, and biscuits	154	150	USA	149	99
				Japan	1	-
				Australia	-	-
				Hong Kong	-	-
				Taiwan	-	-

Source: Statistics Canada, International Trade Division, Data Dissemination Section

1 The countries are ordered based on their share of Canada's exports of the commodity to PECC members. If greater than 5 PECC countries import the commodity from Canada, only the top 5 are listed.

Table 7. Top 5 bulk agricultural products imported from PECC countries (1988-91 average)

	Commodity	Canada's imports from the world	Canada's imports from PECC	Canada's imports from PECC by country[1]		
				Country	Value	Share
		----- (mil.$) -----			(mil.$)	(%)
1	Cane or beet sugar	309	181	Australia	146	81
				USA	32	18
				Singapore	1	-
				S.Korea	1	-
				China	-	-
2	Natural rubber & similar natural gums	108	103	Asean	86	83
				USA	9	8
				Singapore	8	8
				Taiwan	-	-
				Japan	-	-
3	Corn	87	86	USA	86	100
				New Zealand	-	-
4	Cotton (not carded or combed)	82	70	USA	70	100
5	Rice	72	67	USA	54	81
				Asean	12	18
				Australia	-	-
				China	-	-
				Hong Kong	-	-

Source: Statistics Canada, International Trade Division, Data Dissemination Section

[1] The countries are ordered based on their share of Canada's imports of the commodity from PECC members. If greater than 5 PECC countries export the commodity to Canada, only the top 5 are listed.

Table 8. Top 5 intermediate agricultural products imported from PECC countries (1988-91 average)

	Commodity	Canada's imports from the world	Canada's imports from PECC	Canada's imports from PECC by country[1]		
				Country	Value	Share
		---- (mil.$) ----			(mil.$)	(%)
1	Oil cake & other solid residue	177	177	USA	177	100
				China	-	-
				Hong Kong	-	-
				Japan	-	-
				Taiwan	-	-
2	Raw furskins	98	73	USA	72	99
				Japan	-	-
				China	-	-
				Hong Kong	-	-
				N. Zealand	-	-
3	Animal feed preparations	91	71	USA	69	98
				Japan	1	2
				Taiwan	-	-
				China	-	-
				Asean	-	-
4	Other sugar[2]	60	55	USA	55	100
				China	-	-
				Hong Kong	-	-
				Japan	-	-
				Asean	-	-
5	Raw hides and skins of bovine or equine animals	56	55	USA	54	99
				Hong Kong	-	-
				N. Zealand	-	-
				S. Korea	-	-
				China	-	-

Source: Statistics Canada, International Trade Division, Data Dissemination Section

[1] The countries are ordered based on their share of Canada's imports of the commodity from PECC members. If greater than 5 PECC countries export the commodity to Canada, only the top 5 are listed.

[2] HS commodity code 17.02. Includes: chemically pure lactose, maltose, glucose, and fructose, in solid form; sugar syrups not containing added flavouring or colouring; artificial honey; and caramel.

Table 9. Top 5 high value agricultural products imported from PECC countries (1988-91 average)

	Commodity	Canada's imports from the world	Canada's imports from PECC	Canada's imports from PECC by country[1]		
				Country	Value	Share
		(mil.$)			(mil.$)	(%)
1	Bovine meats (fresh or chilled)	277	277	USA	268	97
				N.Zealand	6	2
				Australia	2	1
2	Bovine meats (frozen)	227	191	Australia	92	48
				N.Zealand	75	39
				USA	24	13
3	Citrus fruit (fresh or dried)	269	188	USA	162	86
				Japan	17	9
				China	4	2
				Australia	2	1
				Taiwan	1	1
4	Grapes (fresh or dried)	259	175	USA	158	90
				Australia	17	9
				Pac.Isles	-	-
				Taiwan	-	-
				Asean	-	-
5	Fruit and veg. juices (unfermented)	312	167	USA	158	95
				Asean	5	3
				N.Zealand	2	1
				Australia	1	-
				Taiwan	-	-

Source: Statistics Canada, International Trade Division, Data Dissemination Section

[1] The countries are ordered based on their share of Canada's imports of the commodity from PECC members. If greater than 5 PECC countries export the commodity to Canada, only the top 5 are listed.

meat, dairy products, cereals, processed foods, cotton, and alcoholic beverages, while Singapore's leading agricultural imports include fruits, vegetables, coffee, spices, beverages, grains, cereal products, edible vegetable and animal oils, meat and meat preparations, and dairy products. Of these commodities, Canada appears to be competitive in at least certain forms of many of them, including meat and meat preparations, cereals and cereal products, processed foods, edible vegetable oils, and alcoholic beverages. Thus, market opportunities may well exist. However, product differentiation may play an important role, particularly in the high-value category. Consequently, to increase its exports to Hong Kong or Singapore, Canada may need to place greater emphasis on product development in order to meet consumer tastes abroad. With correct product lines, competitively priced, attention could then be paid to establishing a market presence supported by trade promotion activities.

Trade between any two nations is influenced by a host of factors: economic and population growth, consumer tastes and preferences, technology transfer, and resource endowments. However, the general system of trading rules, as well as trade policies in individual member countries, also have a major effect on trade flows and levels. This relationship among trading rules, national policies, and trade flows will be examined in the following sections.

Agricultural and Trade Policy in PECC Countries

Since the early 1980s, there has been growing concern about the level of and increase in government intervention in agriculture, especially in industrial market economies. Much of the concern is rooted in the impact of these policy interventions on agricultural trade flows and world market prices. The negotiations on agriculture under the Uruguay Round of the GATT, in progress since 1986, focus on disciplining national policies that distort agricultural trade.

The negotiations on agriculture are structured into three broad areas: domestic support, market access and export subsidies. In addition, the negotiations on sanitary and phytosanitary issues and special and differential treatment for developing countries are important to agriculture.

The process of developing tools that would facilitate the negotiations, particularly in the area of domestic support, has generated a number of indicators of size and type of government intervention. One such indicator is the 'producer subsidy equivalent' (PSE), estimated in slightly different ways by, for example, the Organization for Economic Cooperation and Development

and the U.S. Department of Agriculture. While a PSE does not measure the trade distortion resulting from national policies, it does give an indication of the extent to which national policies effect transfers to a country's producers. Such transfers can take the form of, for example, direct payments from government to producers, indirect transfers (such as artificially low prices on agricultural inputs), and market price support resulting from regulated producer prices. Depending on how such polices are implemented, they can give rise to different degrees of trade distortion.

Tables 10 and 11 show PSEs for red meats and grains, respectively, in selected PECC countries in 1987 (as estimated by the USDA). PSE values are expressed in both percentage and per unit terms It should be noted that the denominator in the percentage expression is the value of production including the transfers counted in the PSE. This means that comparisons between percentage PSE for a commodity understate the underlying differences in PSE per tonne of the commodity.

The PSEs for red meat commodities (Table 10) indicate that Japan has provided substantial support to its beef and pork producers. However, support to beef in Japan should decline under the market access reforms now being implemented. While South Korea supported its beef sector heavily, the negative PSE for pork indicates that this country taxed its pork sector. Levels of support to red meats in other PECC countries, for which data are available, appear to have been more modest in 1987.

The implications for Canada, whose competitive advantage would appear to be stronger in pork than in beef, would thus differ with respect to South Korea and Japan. The implications would also depend on the extent and nature of any policy reforms in the feed grains sector in South Korea and in the pork sector in Japan.

PSEs for grains (Table 11) in selected PECC countries in 1987 were in general higher in percentage terms than for red meats. Among the three major grain exporting countries (USA, Canada, and Australia), only Australia recorded low percentage PSEs. Support was also high in the grain importing countries of Japan, South Korea, and Taiwan. As an efficient grain producer, Canada has a strong interest in achieving more liberal markets for grains.

The Dunkel Trade Liberalization Proposal

Despite initial negotiating objectives of some countries (most notably the USA and Cairns Group) to eliminate, or at least greatly reduce, trade distorting agricultural subsidies through this GATT round, only a more modest agreement now appears possible. However, even this would have a major impact, particularly over the longer

Table 10. Producer Subsidy Equivalents (PSE) for red meats by country (1987)

Country		Beef & Veal	Pork	Mutton & Lamb
Australia	percent[1]	4	-	3
	US$/ton	(57)		(20)
Canada	percent	10	9	-
	US$/ton	(229)	(122)	
China	percent	-46	-67	-17
	US$/ton	(-795)	(-648)	(-246)
Indonesia	percent	-	-	-
	US$/ton			
Japan	percent	72	56	-
	US$/ton	(7696)	(1852)	
New Zealand	percent	9	-	13
	US$/ton	(100)		(79)
South Korea	percent	47	-53	-
	US$/ton	(2305)	(-1248)	
Taiwan	percent	22	2	-
	US$/ton	(1547)	(39)	
Thailand	percent	-	-	-
	US$/ton			
USA	percent	10	7	-
	US$/ton	(220)	(115)	

Source: USDA, ERS, Statistical Bulletin No. 803 (April 1990)

[1] Percentage value expresses PSE as a ratio to "producers' value" which includes the commodity's domestic market value plus any direct government payments.

Table 11. Producer Subsidy Equivalents (PSE) for grains by country (1987)

Country		Wheat	Barley	Corn	Rice
Australia	percent[1]	4	3	-	4
	US$/ton	(5)	(2)		(6)
Canada	percent	51	55	37	-
	US$/ton	(67)	(33)	(36)	
China	percent	-17	-	5	-62
	US$/ton	(-22)		(5)	(-97)
Indonesia	percent	-	-	-	8
	US$/ton				(15)
Japan	percent	108	107	-	97
	US$/ton	(1472)	(1375)		(2241)
New Zealand	percent	-	-	-	-
	US$/ton				
South Korea	percent	-	91	77	84
	US$/ton		(585)	(282)	(920)
Taiwan	percent	79	-	82	46
	US$/ton	(498)		(360)	(277)
Thailand	percent	-	-	-	5
	US$/ton				(7)
USA	percent	63	72	46	49
	US$/ton	(100)	(85)	(56)	(196)

Source: USDA, ERS, Statistical Bulletin No. 803 (April 1990)

[1] Percentage value expresses PSE as a ratio to "producers' value" which includes the commodity's domestic market value plus any direct government payments.

run, including increased trade opportunities based on competitive advantage, and improved world commodity prices.

After six years of talks, if an agreement is reached it is likely to be based on a proposal tabled by Arthur Dunkel in December 1991. The main elements of the proposal are summarized in the following overview. The Dunkel proposal calls for an agreement to be implemented over a six year period. In the domestic support section, trade distorting support would be reduced by 20% based on the Aggregate Measure of Support (AMS). In the area of export subsidies, total expenditures would be reduced by 36%, and the volume of subsidized exports would be reduced by 24%. In the area of border measures, non-tariff barriers would be converted to tariffs, and then all tariffs would be bound and reduced by an average of 36% (minimum of 15% per tariff line). Where access barriers exist and imports have been below certain thresholds, minimum access opportunities would be set at a level of 3% of domestic consumption at the start of the implementation period, rising to 5% by the end of the period. There would be special concessions for developing countries which could have relevance for a number of PECC countries, including members of the South Pacific Forum and several of the ASEAN nations.

Although GATT disciplines are being negotiated in the three areas of domestic support, market access and export competition, the disciplines under the Dunkel proposal which would likely have the largest impact on trade flows are the minimum access and export volume commitments. Although tariffs and tariff equivalents must be reduced by 36% on average, the minimum requirement is 15% by tariff line, and consequently, cuts in support for sensitive commodities can be quite modest. There may also be a tendency to exploit flexibility in the agreement to maximize tariff equivalents and domestic expenditure levels in data submitted to the GATT. Nevertheless, the stage would be set for negotiating more significant tariff and AMS reductions in future GATT rounds.

Minimum access commitments (MACs) are intended to provide access opportunities to exporters, but the actual distribution of benefits will depend on the allocation of import quota available under a MAC. According to the Dunkel proposal, additional quota shall be allocated on a 'Most Favoured Nation' basis (no GATT member will be given preferential treatment).

In the export competition area, the volume of a commodity exported under subsidy must be reduced by 24% from base period levels, and expenditures must be reduced by 36%. Of the two disciplines, the volume commitment would likely have the larger impact, especially for a non-targeted export program such as that of the EC. However, the use of export subsidies by PECC nations is not widespread, with the exception of the United States.

In the area of domestic support, the issue of compensation

payments to producers following trade liberalization, the so-called "blue box" programs, requires further delineation. At the PECC workshop in 1989, Blandford and de Gorter presented the concept of "production entitlement guarantees (PEGs)" as an approach to designing trade neutral programs. Although not under consideration in the current round, this concept may well be of interest to a broad range of countries in future discussions.

Results of Quantitative Analyses

There have been a number of quantitative studies of the possible effects of a GATT agreement (e.g. FAPRI in the USA, ABARE in Australia, OECD)[3]. It should be noted that these studies differ in the modelling technique used, the commodity and geographic coverage, the explicit policy content, and the assumptions regarding the Dunkel text. The FAPRI study was conducted jointly by Iowa State University and the University of Missouri-Columbia using a dynamic econometric model of the agricultural sectors of a large number of trading regions (including a large proportion of PECC nations). The ABARE study is also a partial equilibrium analysis based on the SWOPSIM model which employs a comparative statics approach. The OECD study used the CGE RUNS model which emphasizes the agricultural sector of each national economy, but also considers non-agricultural sectors.

In modelling agricultural trade, all of these models provide estimates of changes in each country's net trade position, but they do not track bilateral trade flows. This is a serious limitation when the trade flows under study are restricted to a particular region. The results are also highly dependent on assumptions regarding policy responses in each of the countries modeled, as well as on base data values. Results are particularly sensitive to the set of elasticity estimates used. Despite these qualifications, the three studies cited previously provide useful information regarding the possible trade effects of a GATT agreement along the lines proposed by Dunkel.

Trade liberalization affects a country directly by altering world prices. The world price effects from the FAPRI, ABARE, and OECD studies are summarized in Table 12. Price impacts estimated in the OECD study are the smallest, ABARE price changes tend to be the largest, with the FAPRI results falling in between. Nevertheless, all three sets of results are consistent in two

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[3]A study was also conducted by V. Roningen of the USDA which compares the Mac Sharry proposal for EC CAP reform with Dunkel's GATT proposal. However, only unilateral reform by the EC was considered, and consequently, it is not included in the comparison of quantitative results (Table 12).

Table 12. World price effects from a GATT agreement: a comparison of various model results[1]

Commodity	Change in world prices between Dunkel and baseline scenarios[2]		
	FAPRI[3]	ABARE[4]	OECD[5,6]
	---------- (% change) ----------		
Crops:			
Wheat	5.6	11.0	-0.4
Corn	6.6	8.0	2.3
Other coarse grains	7.1	9.0	2.3
Soybeans/veg oil	6.7	-	2.7
Rice	2.8	6.0	-4.5
Sugar	26.1	4.0	9.3
Meats:			
Beef	0.9	8.0	4.0
Pork	5.9	5.0	-0.8
Poultry	6.5	-	-0.8
Sheep	-	3.0	4.0
Dairy:			
Butter	9.8	19.0	6.0
Cheese	28.3	29.0	6.0
Nonfat Dry Milk	11.7	24.0	6.0

1 The FAPRI, ABARE, and OECD studies are compared. Although all 3 studies simulate the effects of a GATT agreement similar to that proposed by Dunkel, the OECD study does go beyond the Dunkel text in its assumptions.

2 Basis 1998/99 for crops and 1998 for all other commodities.

3 Source: FAPRI Staff Report #3-92. Iowa State University (April 1992)

4 Source: Andrews, N. and I.M. Roberts. "The Dunkel Uruguay Round text: Implications for agriculture - an Australian view", ABARE conference paper 92.21 presented at the Pacific Economic Cooperation Conference, Honolulu (May 1992)

5 Source: Goldin, I. and D. van der Mensbrugghe. "Trade Liberalization: What's at Stake", Development Centre of the Organization for Economic Cooperation and Development, Paris (1992)

6 In the OECD study, commodities are more highly aggregated. In particular, there is a single 'Coarse Grains' category which would include corn; 'Beef, Veal, and Sheep Meat' is a single aggregate; pork and poultry would be included under 'Other Meats'; and butter, cheese, and nonfat dry milk are considered part of the 'Dairy' aggregate. See also Footnote 1 above.

respects: first, the Dunkel proposal generally results in modest world price increases for crops and meat; and second, dairy product prices are affected the most, whereas meat prices tend to be affected the least.

Although world commodity prices generally increase, domestic prices in individual countries may increase or decrease, depending on domestic policy responses. As these vary among PECC nations, domestic price effects, and consequently production, consumption, and trade effects, will also differ. Since price changes are generally small, production and consumption changes are also expected to be modest. However, trade effects for a particular country can be significant depending on the volume of trade relative to production and consumption levels. The FAPRI trade impacts are summarized in Table 13 for world meat trade, and in Table 14 for world trade in grains.

Based on the limited results for the meat sector (Table 13), the PECC region will be surplus in beef and poultry, and deficit in pork in 1998. Generally, the effect of an agreement is for PECC importers to reduce imports, and for PECC exporters to increase exports.[4] A notable exception is pork imports for Japan which could increase substantially. Other significant changes include a large increase in US pork and broiler exports.

The results in Table 14 indicate that the PECC region will strengthen its position as a supplier of wheat, feed grains, and rice. This is not surprising given that the PECC region includes three of the four largest exporters of grains (USA, Canada, and Australia). As a result of an agreement, current PECC exporters generally increase sales. Japan is the only major PECC importer identified in Table 14. Under the Dunkel proposal, Japan imports less wheat, but allows some importing of rice. Japanese feedgrain imports decline as domestic livestock production falls.

The largest price increases occur in markets for dairy products, and consequently, trade in these products undergoes significant change. Although there tends to be a high level of intervention in the dairy sector by many governments, the New Zealand and Australian sectors are relatively less protected, and consequently, the dairy sector of these two countries should

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[4] The significant increase in Japanese beef imports resulting from the beef liberalization agreement of 1988 is included in the baseline scenario. Thus, as world beef prices improve under the Dunkel scenario, and domestic pork prices fall, Japanese beef consumption and imports decline slightly.

The FAPRI study predicts that EC net exports of beef, pork, and poultry decline significantly under the Dunkel scenario. (FAPRI Staff Report #3-92, p.38).

Table 13. World meat trade under the baseline and GATT (Dunkel) scenarios (FAPRI analysis)

	1998 Baseline Level[1]	Change in 1998 Level under Dunkel[2]	
	('000 tonnes)	('000 tonnes)	(%)
Net Beef Exports			
USA	28	-10	-35.7
Japan	-887	28	3.2
Canada	-107	9	8.4
Australia	1050	24	2.3
New Zealand	426	18	4.2
Net Pork Exports			
USA	9	510	5666.7
Japan	-775	-416	-53.7
Canada	309	35	11.3
Taiwan	228	7	3.1
Net Broiler Exports			
USA	651	340	52.2
Japan	-567	43	7.6
Thailand	225	4	1.8
U.S. Market Prices			
Omaha Steers	77.51	0.73	0.9
Barrows and Gilts	50.35	2.95	5.9
12-city Broilers	54.90	3.57	6.5

Source: FAPRI Staff Report #3-92. Iowa State University (April 1992).

1 The baseline scenario represents the case where no GATT agreement is reached. For the baseline results, positive numbers indicate that the country or group of countries is a net exporter and negative numbers indicate a net importer.

2 The Dunkel scenario represents the case where a GATT agreemment along the lines of the Dunkel proposal is reached. The results presented simulate how trade levels in 1998 could differ as a result of an agreement. A positive number indicates an increase in exports and/or a reduction in imports, and a negative number indicates a reduction in exports and/or an increase in imports.

Table 14. World wheat, feed grain, and rice trade under the baseline and GATT (Dunkel) scenarios (FAPRI analysis)

	1998 Baseline Level[1]	Change in 1998 Level under Dunkel[2]	
	('000 tonnes)	('000 tonnes)	(%)
Net Wheat Exports			
USA	35623	1929	5.4
Japan	-5961	147	2.5
Canada	22322	566	2.5
Australia	14148	399	2.8
Net Feed Grain Exports			
USA	55269	4794	8.7
Japan	-21935	941	4.3
Canada	6333	-115	-1.8
Australia	2966	55	1.9
Thailand	1419	12	0.8
Net Rice Exports			
USA	2081	218	10.5
Japan	0	-470	-
Thailand	6054	102	1.7
Indonesia	-292	17	5.8
World Prices			
Wheat (FOB Gulf)	141.69	7.95	5.6
Corn (FOB Gulf)	100.03	6.57	6.6
Barley (FOB Pac. NW)	100.90	7.20	7.1
Rice (FOB Bangkok)	366.61	10.17	2.8

Source: FAPRI Staff Report #3-92. Iowa State University (April 1992).

1 The baseline scenario represents the case where no GATT agreement is reached. For the baseline results, positive numbers indicate that the country or group of countries is a net exporter and negative numbers indicate a net importer.

2 The Dunkel scenario represents the case where a GATT agreemment along the lines of the Dunkel proposal is reached. The results presented simulate how trade levels in 1998 could differ as a result of an agreement. A positive number indicates an increase in exports and/or a reduction in imports, and a negative number indicates a reduction in exports and/or an increase in imports.

benefit from a GATT agreement. The FAPRI results (not shown) indicate that New Zealand and Australian exports of butter, cheese, and nonfat dry milk, which are already substantial, should increase significantly.

The results presented here summarize the major findings of the FAPRI study. Although this particular study does not cover the full range of commodities of interest, or consider all PECC countries, it does quantify some important trade effects of a GATT agreement along the lines of the Dunkel proposal, thus indicating possible opportunities for expanding trade between Canada and the other PECC nations as a result of such an agreement.

Summary and Conclusion

Currently, over 60% of Canada's agricultural trade is with PECC countries. However, this trade is highly concentrated. First, Canada sells over 90% of its bulk agricultural exports to Japan, China, and the USA. Second, Canada sells significant quantities of intermediate goods and high valued products to the United States, a small amount to Japan, but very little to anyone else. Correspondingly, Canada's share of the agricultural imports of many PECC countries is very small indeed (e.g. Canada provides less than 1% of Hong Kong's total agricultural imports compared to the United States' share of 17%). A number of these non-U.S. PECC countries have experienced very high economic growth rates in recent years, and are major importers of agricultural products on a per capita basis (Tables 2 and 3). Furthermore, a number of their major imports are in commodity categories which include products exported by Canada. All of these observations suggest that unexploited trade opportunities may exist for Canada. However, a first step in realizing these opportunities would be to identify why they have remained unexploited to date. The answer to this question would point the way to subsequent steps such as product and/or market development.

In recent years, some countries have attempted to gain a competitive advantage through the use of export subsidies. However, it is less likely that this avenue will be open to governments as countries attempt to discipline such policies through a renewed GATT agreement. In addition, tariffication, tariff reductions, and minimum access commitments under such an agreement should provide new market opportunities for exporting countries. Although quantitative studies indicate that in aggregate, the impact of a GATT agreement on prices and trade volumes may be modest, for individual countries and in specific commodity areas, the impact could be quite significant. At the very least, an agreement should result in trade being determined more by comparative advantage, and less by subsidization, leading to overall welfare gains.

It is recognized that this paper is largely descriptive in nature. However, it serves as a necessary first step in identifying shortcomings in our knowledge in order to better focus future analytical work. Such research topics relate to explaining current trading patterns and identifying new trading opportunities. Additional work is needed in the following areas:

1. developing a more detailed understanding of products traded, including volumes, values, and access levels;

2. investigating the role of product differentiation in explaining trade patterns;

3. reviewing national policies affecting agricultural trade in general, and trade barriers in particular, including expenditure levels, tariff levels, and domestic price information;

4. analyzing the impact of regional trading arrangements such as the Canada-US Trade Agreement and a North American Free Trade Agreement on overall trade flows among PECC nations; and

5. analyzing trends and variability in trade data over a longer time period.

In any additional analysis, trade with the new PECC members will need to be included, and consideration should be given to disaggregating the ASEAN group. Furthermore, the current paper identifies the need for a trade model which tracks bilateral trade flows. Such a model would distinguish intra-PECC trade from transactions with the rest of the world. It would also provide important detail to better explain observed trading patterns amongst PECC nations, and to identify possible trade opportunities.

The very small share of Canadian agricultural exports to Asian PECC countries (excluding Japan and China) is of considerable concern as this area represents the most rapid growth markets in the world. It is critical that Canada improves its knowledge of the market requirements of this region and be able to meet the challenge of providing quality, price competitive products. This is particularly important as traditional bulk product markets are likely to decline in other regions of the world.

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APPENDIX I.

List of nations included in PECC

The Pacific Economic Cooperation Council (PECC) is an informal international body made up of twenty Pacific Rim economies, including three Latin American ones and the Russian Federation. As of January 1992, the member countries are:

Australia
Brunei Darussalam
Canada
Chile
China
Hong Kong
Indonesia
Japan
Korea
Malaysia
Mexico
New Zealand
Peru
Philippines
Russia
Singapore
Chinese Taipei
Thailand
United States
Pacific Island Nations
(via South Pacific Forum)

Source:
Canadian National Committee for Pacific Economic Cooperation,
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APPENDIX II.

Definition of commodity categories

For this study, traded agricultural commodities have been grouped into 3 categories: bulk (or unprocessed), intermediate (or semi-processed), and high value (or consumer-oriented). The following definitions are based on those used by the USDA, but have been adapted to the Canadian situation.

1. BULK COMMODITIES

Bulk commodities are those that are free from processing. The major exports in this category include wheat, canola, and barley; the imports include sugar, rubber, and maize.

2. INTERMEDIATE COMMODITIES

Intermediate products are principally semiprocessed products in the intermediate stage of the food chain. The major exports in this category include live cattle and hogs, peat moss, oilseed products, and malt; the imports include oil cake, raw furskins and hides, and feed preparations.

3. HIGH VALUE COMMODITIES

High value products are fundamentally end products that require little or no additional processing for consumption. The major exports in this category include red meat, alcoholic beverages, and grain products such as bread, pastry, cakes, and biscuits; the imports also include beef, as well as fruits and vegetables.